

CLAIMS:

1. A convertible vehicle comprising:

a vehicle body defining a window shoulder line along its upper edge,

a foldable roof comprising a roof cover and a rear window supported within a rear roof portion, the foldable roof being pivotably coupled to the vehicle body so as to be movable between a roof open position and a roof closed position, wherein the rear window extends to, or below, the window shoulder line when the foldable convertible roof is disposed in the roof closed position, and

at least two tensioning bow portions disposed substantially laterally with respect to the rear window and on opposite, lower sides of the foldable roof, wherein a space between the tensioning bow portions is defined proximal to a rear, lower edge of the foldable roof and the window shoulder line when the foldable roof is disposed in the roof closed position, a first end of each tensioning bow portion is pivotably coupled, directly or indirectly, to the vehicle body and a second end of each tensioning bow portion is pivotably coupled, directly or indirectly, to the rear window, and wherein the tensioning bow portions are arranged and constructed to apply a stretching force across a rear portion of the roof cover when the roof is disposed in the roof closed position.

2. A convertible vehicle as in claim 1, further comprising a flexible water channel arranged and constructed to provide a water barrier between the vehicle body and the foldable roof, the flexible water channel having a first and second side, the first side being coupled to, and extending along, the rear, lower edge of the foldable roof, and the second side being coupled to the vehicle body.

3. A convertible vehicle as in claim 2, wherein a lower portion of the rear window extends within the space defined between the tensioning bow portions.

4. A convertible vehicle according to claim 3, wherein the flexible water channel extends substantially horizontally around the rear roof portion in a generally U-shape, the flexible water channel being attached to the respective tensioning bow portions on lateral sides of the vehicle body and being directly attached to a lower edge of the rear window in a longitudinally middle portion of the vehicle body.

5. A convertible vehicle according to claim 4, wherein the flexible water channel is a one-piece, continuous member.
6. A convertible vehicle according to claim 5, wherein the flexible water channel comprises a flexible synthetic material.
7. A convertible vehicle according to claim 6, wherein the flexible water channel comprises a polyamide layer coated with polyurethane.
8. A convertible vehicle according to claim 7, wherein the flexible water channel includes a trough that is defined between first and second opposing walls, the second wall being coupled to the tensioning bow portions and the rear window and the first wall being coupled to the vehicle body, wherein the water channel is arranged and constructed such that the position of the trough and a height ratio of the first wall to the second wall varies according to the opening state of the roof.
9. A convertible vehicle according to claim 8, wherein the water channel is arranged and constructed such that the height ratio between the first wall and the second wall is between about 5:1 and 1:5 when the roof is moved to a roof open position from a roof closed position.
10. A convertible vehicle according to claim 9, wherein the rear window is rigid and arched in cross-section and comprises curved lateral side portions that conform to corner portions of the rear roof portion.
11. A convertible vehicle, comprising:
  - a vehicle body defining a window shoulder line along its upper edge,
  - a foldable roof movably supported by the vehicle body and having a rigid, rear window disposed within a rear roof portion, the foldable roof being movable between a roof open position and a roof closed position, and the foldable roof being arranged and constructed to be stored substantially completely within the vehicle body and substantially

or completely below the window shoulder line when the foldable roof is disposed in the roof open position, and

at least first and second tensioning bow portions extending substantially laterally with respect to the rear window and substantially in parallel with a central longitudinal axis of the vehicle, wherein a first end of each tensioning bow portion is pivotably coupled to the vehicle body, a second end of each tensioning bow portion is pivotably coupled to the rear window, a gap is defined between the tensioning bow portions proximal to a lower edge of the rear window and the tensioning bow portions are arranged and constructed to apply a stretching force across a rear portion of a roof cover when the roof is disposed in the roof closed position.

12. A convertible vehicle as in claim 11, further comprising a flexible water channel movably coupling the foldable roof to the vehicle body.

13. A convertible vehicle as in claim 12, wherein the flexible water channel comprises first and second walls defining a trough therebetween, the first wall being coupled to the vehicle body, an inner portion of the second wall being attached to a lower edge of the rear window and outer portions of the second wall being respectively attached to the first and second tensioning bow portions.

14. A convertible vehicle according to claim 13, wherein the water channel is an integrally formed member having a substantially U-shape in horizontal cross-section.

15. A convertible vehicle according to claim 14, wherein the water channel comprises a stretchable polyamide layer.

16. A convertible vehicle according to claim 15, wherein a height ratio of the first wall to the second wall varies between about 5:1 and 1:5 according to the opening state of the roof.

17. A convertible vehicle according to claim 16, wherein the rear window comprises curved lateral side portions so as to conform to corner portions of the rear roof portion.

18. A convertible vehicle according to claim 17, further comprising a seal disposed on the vehicle body proximal to the window shoulder line, wherein the foldable roof is arranged and constructed such that a lower portion of the rear window contacts the seal when the roof is disposed in the roof closed position and the lower portion of the rear window separates from the seal when the roof is moved to the roof open position.

19. A convertible vehicle according to claim 18, wherein the rear window provides a substantially panoramic rear view that is substantially unobstructed down to the window shoulder line when the roof is disposed in the roof closed position.

20. A convertible vehicle according to claim 13, wherein a height ratio of the first wall to the second wall varies between about 5:1 and 1:5 according to the opening state of the roof

21. An apparatus comprising:

a foldable roof having roof cover and a rear window disposed within a rear roof portion of the roof cover,

first and second tensioning bow portions arranged and constructed to apply a stretching force across lower, rear, side portions of the roof cover when the roof is disposed in a roof closed position, a first end of each tensioning bow portion being pivotably coupled, directly or indirectly, to the rear window and a second end of each tensioning bow portion being arranged and constructed to be pivotably attached to a convertible vehicle body, and

a flexible water channel having a first wall, a second wall and a trough defined between the first and second walls, wherein the first wall is arranged and constructed to be attached to the convertible vehicle body, and wherein a central portion of the second wall is coupled to the rear window and outer portions of the second wall are respectively coupled to the first and second tensioning bow portions.

22. An apparatus according to claim 21, wherein a space between the tensioning bow portions is defined proximal to a lower, rear edge of the foldable roof and at least a portion of the rear window is disposed within the space when the roof is disposed in the roof closed position.

23. An apparatus according to claim 22, wherein the rear window comprises curved lateral side portions that conform to corner portions of the rear roof portion.

24. A convertible vehicle comprising:

a convertible vehicle body defining a window shoulder line,

the apparatus of claim 23, wherein the second end of each tensioning bow portion is pivotably attached to the convertible vehicle body and the first wall of the flexible water channel is coupled to the convertible vehicle body, and

a seal disposed on the convertible vehicle body proximal to the window shoulder line, wherein the foldable roof is arranged and constructed such that a lower portion of the rear window contacts the seal when the roof is disposed in the roof closed position and the lower portion of the rear window separates from the seal when the roof is moved to a roof open position.

25. A convertible vehicle according to claim 24, wherein the rear window is substantially rigid and wherein the foldable roof and the convertible vehicle body are arranged and constructed to store the rear window within the convertible vehicle body when the roof is disposed in the roof open position.

26. An apparatus comprising:

a foldable roof comprising a roof cover and a rear window supported within a rear roof portion, the foldable roof being arranged and constructed to be pivotably coupled to a vehicle body so as to be movable between a roof open position and a roof closed position, and

first and second tensioning bow portions disposed on opposite lateral sides of the rear window and respectively extending proximal to a lower edge of side portions of the foldable roof, wherein no tensioning bow is provided within a lower, rear section of the foldable roof defined by first and second vertically extending edges of the rear window such that a space between the first and second tensioning bow portions is defined within the lower, rear section of the foldable roof, and wherein the first and second tensioning bow portions are arranged and constructed to apply a stretching force across a rear portion of the roof cover when the foldable roof is disposed in the roof closed position.

27. An apparatus according to claim 26, wherein at least a portion of the rear window is disposed within the space defined between the first and second tensioning bow portions.

28. An apparatus according to claim 27, wherein the rear window is substantially rigid and comprises curved lateral side portions that conform to corner portions of the rear roof portion.

29. An apparatus according to claim 28, wherein the first tensioning bow portion is pivotably coupled to a lowermost portion of the first vertically extending edge of the rear window and the second tensioning bow portion is pivotably coupled to a lowermost portion of the second vertically extending edge of the rear window.

30. An apparatus according to claim 29, further comprising a flexible water channel coupled to a lower edge of the foldable roof and being arranged and constructed to be attached to the vehicle body.

31. An apparatus according to claim 30, wherein the flexible water channel is substantially U-shaped in horizontal cross-section and is also attached to the first and second tensioning bow portions.

32. An apparatus according to claim 31, wherein the rear window is arranged and constructed so that, when the foldable roof is disposed in the roof closed position, the rear window extends to, or below, a window shoulder line defined by the vehicle body.